



Marx, Saffra and the foundations of the Critique of Political Economy

An Interview with Andrew Kliman

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I. Zur Einführung in die Thematik:

Was ist die „Temporal Single System Interpretation“ des Marxschen „Kapital“?

§ 1. Neben einer Reihe qualitativer Fragestellungen zu Marx' Methode und dem erkenntnistheoretischen Status seiner Wert- und Geldtheorie im Rahmen der sog. "Neuen Marxlektüre" existiert seit den frühen achtziger Jahren eine u.a. aus dem angelsächsischen Raum heraus angestoßene Debatte, welche die logische Konsistenz des sog. "Transformationsproblems" und des "Gesetzes vom tendenziellen Fall der Profitrate" thematisiert. Beide Themenbereiche wurden sehr kontrovers diskutiert in den sechziger und vor allem den siebziger Jahren, wobei der entscheidende Startschuss fiel durch Piero Sraffas Buchveröffentlichung *production of*

commodities by means of commodities aus dem Jahre 1960¹ und Nobuo Okishios kurz darauf erschienenen Aufsatz *Technical Change and the Rate of Profit* aus dem Jahre 1961.²

¹ In deutscher Sprache erschienen im Suhrkamp-Verlag: Piero Sraffa (1976): *Warenproduktion mittels Waren*, Frankfurt/Main, 1976. Die erste deutsche Auflage erschien 1968 in der DDR im Aufbau-Verlag.

² Okishio (1974).

Sraffas zunächst gegen die neoklassische Wirtschaftstheorie gerichteter, neoricardianischer Ansatz wurde erst mit einigen Jahren Verzögerung auf die Marxsche Wert-Preis-Problematik angewendet und gipfelte in Ian Steedmans viel beachteter Monographie *Marx after Sraffa* aus dem Jahre 1977.³ Nbuo Okishios Kritik des Marxschen "Gesetzes des tendenziellen Falls der Profitrate"⁴ wiederum hängt methodisch eng zusammen mit Sraffas Theorieprogramm und wurde im Grunde mit den gleichen Argumenten unterlegt, welche auch in der Debatte um das „Transformationsproblem“ den Rahmen absteckten.⁵

§ 2. Ausgangspunkt der gesamten Debatte war Marx' im dritten Band des „Kapital“ entwickeltes Theorem der Durchschnittsprofitrate und dessen Beziehung zur "reinen" Arbeitswerttheorie des ersten Bandes des "Kapital". Hier, im ersten Band des „Kapital“, geht Marx noch vorrangig von den Problemen der *Produktion* des Mehrwerts aus, während

er im dritten Band das Problem der *Verteilung* des Mehrwerts über die Konkurrenz der einzelnen Kapitalien und die Herausbildung einer Durchschnittsprofitrate behandelt. Das Grundproblem ist hierbei, dass unterschiedlich „organisch zusammengesetzte“ Kapitalien⁶ bei Existenz einer einheitlichen Mehrwertrate⁷ unterschiedlich profitabel wären.⁸ Marx löst dieses Problem dadurch, dass er den produzierten Mehrwert über die Konkurrenz umverteilen lässt: Während Kapitalien mit einer hohen organischen Zusammensetzung *Kapitalabflüsse* verzeichnen, *ziehen* Kapitalien mit niedrigerer organischer Zusammensetzung zusätzliche Investitionen *an*. Dieser Verteilungsprozeß kapitalistischer Investitionen führt dazu, dass Mehrwert von Sektoren mit niedriger organischer Zusammensetzung transferiert wird zu Sektoren mit

³ Steedman (1977).

⁴ Das Okishio-Theorem setzt einen konstanten Lohnsatz voraus und abstrahiert vom fixen – also sich über mehrere Produktionsperioden umschlagenden – Kapital. Eine verallgemeinerte Formulierung des Theorems unter Einbezug des fixen Kapitals hat Roemer (1981: 119 ff.) vorgelegt. Simultanistisch orientierte Kritiken des Okishio-Theorems haben sich auf den konstanten Reallohnsatz, eine Ersetzung des Konzepts des konstanten Reallohns durch eine konstante reale *Lohnquote*, einen vorzeitigen Verschleiß der Produktionsmittel (welche dann von innovativeren Maschinen ersetzt werden mit dem Effekt, dass Innovationen infolge vorzeitiger Entwertung produktivitätshemmend sind) oder eine Kritik an Okishios Wettbewerbsmodell konzentriert, s. Kliman (2007: 118 ff.).

⁵ S. hierzu im Detail die Studie von Cogoy (1982). Diese sehr formal angelegte Untersuchung zeigt auf, wie die konsequente Anwendung einer neoricardianischen Marxinterpretation einerseits zum Verdikt der „Redundanz der Werttheorie“ führt und andererseits (s. Cogoy (1982: 48)) zu einem dem Marxschen Gesetz des tendenziellen Falls der Profitrate diametral entgegengesetzten Theorem einer steigenden Profitrate.

⁶ Die „organische Zusammensetzung des Kapitals“ drückt nach Marx das Verhältnis zwischen konstantem und variablem Kapital aus (c/v), also im Prinzip den Aufwand an technischen Produktionsinstrumenten pro Arbeitsplatz. In der gängigen Volkswirtschaftslehre wird diese Relation durch den Begriff der „Kapitalintensität“ ausgedrückt.

⁷ Die Mehrwertrate (m/v) gibt das Verhältnis des Mehrwerts zum variablen Kapital (also der Summe der Löhne) an.

⁸ Diesen Punkt – und somit die Notwendigkeit der Vereinbarkeit der Arbeitswerttheorie mit einer einheitlichen Profitrate für alle Produktionssphären – hebt auch Marx' großer Kritiker von der Österreichischen Schule der Nationalökonomie, Eugen von Böhm-Bawerk (1973), hervor, wenn er in seiner Besprechung des Marxschen „Kapital“ schreibt: „Tatsächlich steht aber im Leben der Kapitalgewinn in Proportion zum *gesamten* investierten Kapitale“ (1973: 26) bzw. zeige sich „die wirkliche Welt (...) auf das deutlichste von dem Gesetze beherrscht, dass Kapitale von gleicher Größe, ohne Rücksicht auf ihre etwaige verschiedene organische Zusammensetzung, gleichen Profit abwerfen“ (1973: 38). Erstaunlich, wie unverfroren hier Böhm-Bawerk einen – ihm als Theoretiker der Österreichischen Schule“ eigentlich methodisch strikt verbotenen – nicht-physischen Kapitalbegriff verwendet, denn anders als wertförmig können physisch heterogene Kapitalien wohl kaum „von gleicher Größe“ sein.

hoher organischer Zusammensetzung, da in letzteren Sektoren die Preise in dem Maße steigen, wie sie in ersteren fallen. Preissignale sind insofern immer auch "Knappheitssignale" in Bezug auf realisierbare Anteile am produzierten Mehrwert und damit investitionssteuernd. Im System der sog. „Produktionspreise“ drückt sich somit der spezifisch kapitalistische Charakter der Produktion (Privateigentum an Produktionsmitteln und „doppelt frei Lohnarbeit“ als Grundvoraussetzungen für die Konstitution kapitalistischer Arbeitsteilung und klassenförmig organisierter Mehrwertproduktion) sowie die Motivationsstruktur der Produzenten (Investitionssteuerung über dezentrale, über den Markt koordinierte Entscheidungen der Profitmaximierung) aus.⁹ Es wurde allerdings bereits frühzeitig¹⁰ von dem sozialdemokratischen Studenten Wolfgang Mühlpfordt¹¹ bemängelt, dass Marx' Transformationsverfahren unvollständig sei, da er nicht ebenfalls die Produktionsmittel transformiere, sondern als Wert-

ausdrücke in seinem Schema beibehalte.¹² Der Grundvorwurf an Marx lautet also, dass er zwar die *Endprodukte* dem Gesetz der Durchschnittsprofitrate unterwerfe, aber die *Eingangsprodukte* (Produktionsmittel) als Wertausdrücke beibehalte – mit dem paradoxen Ergebnis, dass ein und dieselbe Ware einmal als Produktionsmittel mit einem Wertausdruck auftrete, um als Endprodukt wiederum mit einem Preisausdruck zu erscheinen. Die gleiche Ware könne aber nicht einmal in transformierter Gestalt mit einem Produktionspreis auftreten und ein anderes mal als untransformierter Wertausdruck, denn auch Produktionsmittel unterlägen dem Gesetz der Durchschnittsprofitrate, welches umstandslos auf *alle* Waren anzuwenden sei.¹³

§ 3. So gestellt führt das Problem allerdings in letzter Instanz zur vollständigen Zerstörung der Wertebene, denn wenn Wertstrukturen aus prinzipiellen Erwägungen heraus nicht als *Voraussetzungen* für aus ihnen abzuleitende Preisgrößen legitim sind weil auf

⁹ Privateigentum und Lohnarbeit sind nämlich die strukturelle Voraussetzung dafür, dass beispielsweise variables Kapital marktförmig vermittelt wird, genauso wie auch die Mehrwertrate das Ergebnis der klassenförmigen Organisation *marktvermittelter* Herrschaftsverhältnisse darstellt, wie sie für die kapitalistische Produktionsweise typisch sind.

¹⁰ Im Prinzip hat Mühlpfordt seine grundlegende Problemanalyse noch vor Friedrich Engels' Herausgabe des dritten Bandes des „Kapitals“ im Jahr 1894 präsentiert im Rahmen seiner 1893 vorgelegten Inaugural-Dissertation *Preis und Einkommen in der privatkapitalistischen Gesellschaft*. Da die Dissertation allerdings in ihrer Originalausgabe eine Reihe sehr irritierender Druckfehler im Formelapparat aufwies und zudem mathematisch für ihre Zeit sehr anspruchsvoll formuliert war, wurde ihr eigentlich wegweisender Kerngehalt nicht erkannt und die Thematik erst über 10 Jahre später von Ladislaus von Bortkiewicz mit Erfolg aufgegriffen.

¹¹ Zur besonderen Leistung Wolfgang Mühlpfordts s. Quaas (1991).

¹² "Weicht nicht, wie der Warenpreis, so auch der Preis des Kapitals, der Kostpreis von dem in ihm enthaltenen Werte ab? Diese Frage ist ohne Zweifel zu bejahen. Und zwar wird diese letzte Abweichung ebenfalls durch die Notwendigkeit einer Durchschnittsprofitrate verursacht sein" Mühlpfordt (1895: 95). Sh. zu dieser Debatte auch Büttner (2006).

¹³ Die klassische „Lösung“ des „Transformationsproblems“ durch den preußischen Statistiker und Nationalökonom Ladislaus von Bortkiewicz – und damit natürlich auch die Bortkiewicz'sche Problemstellung selbst – wurde im englischsprachigen Raum v.a. durch den marxistischen Ökonomen Paul M. Sweezy verbreitet und populär gemacht in seinem erstmals 1942 erschienenen Buch „The theory of capitalist development“, in deutscher Sprache im suhrkamp-Verlag erschienen als Sweezy (1971). Sweezy hat auch Bortkiewicz' wichtigste Schriften zu Marx – mit einer Reihe anderer, älterer Schriften aus dem deutschsprachigen Raum – erstmals in englischer Sprache herausgegeben.

allen Ebenen nur Preisgrößen auftreten, müssen beide aus etwas Drittem *abgeleitet* werden.¹⁴ In den seit Bortkiewicz und Sraffa entwickelten Modellen stellen physische Mengendaten und der Reallohnsatz¹⁵ als zentrales Datum zur Bestimmung der Verteilung zwischen Arbeit und Kapital¹⁶ diese von außen dem System vorgegebenen Ausgangsgrößen dar. Diese – auch als „Technologie“ bezeichneten – Mengendaten geben an, welche Quantitäten an Produktionsmitteln einem Produktionsprozess zugeführt werden müssen, um eine Mengeneinheit eines Endproduktes herstellen zu können. Entsprechend dieser Struktur können natürlich bei Kenntnis der technischen Koeffizienten die Einzelwaren in Quanten „homogener Arbeit“ aufgelöst werden, die Sraffa „datierte Arbeitsmengen“ nennt.¹⁷ Allerdings stellen diese „datierten Arbeitsmengen“ keine „Arbeitswerte“ im Marxschen Sinne dar, da sie als rein „technologische“ Größen ohne Bezug auf den Markt und damit die realabstrakte Konstitution des ökonomischen Gegenstandes bleiben.

So hat Michio Morishima als marxistisch orientierter Ökonom darauf hingewiesen, dass „values are thus determined (...) only by technological coefficients, a_{ij} s and l_i ;

they are independent of the market“.¹⁸ Auffällig an Morishimas rein technischer Aussage ist erstens, dass „Werte“ aus „technologischen Koeffizienten“, also Gebrauchswertstrukturen, abgeleitet werden; und dass zweitens diese Wertquanta als rein „technologische“ Größen keinen Bezug zur Marktsphäre und damit zur kapitalistischen Produktionsweise überhaupt haben. Sie entsprechen viel eher einer planwirtschaftlichen Situation einer betriebsinternen Produktionsplanung. Entsprechend kommt bei Morishima der Begriff abstrakte Arbeit – der bei Marx an die reale Abstraktionsleistung des Tausches von Äquivalenten gebunden ist – an dieser exponierten Stelle gar nicht vor, sondern nur eine formunspezifische „homogene Arbeit“, die auch in neoklassischen Produktionsfunktionen auftaucht. Arbeitswerte sind im Rahmen dieses Verfahrens nur noch überflüssige „Nebenprodukte“, womit sich die Marxsche Werttheorie eigentlich erledigt hat. Der italienische marxistische Ökonom Claudio Napoleoni (1973: 201) hat diese Havarie Anfang der siebziger Jahre schließlich so auf den Punkt gebracht:

„Wenn das Problem der Transformation auf diese Weise aufgefaßt und streng der Richtung folgend, die Marx selber aufgezeigt hat, weiterentwickelt wird, so zerstört es sich sozusagen von selbst, da man nicht bei einer Transformation der Werte in Preise anlangt, sondern bei einer

¹⁴ Es ergibt sich dadurch ein strikter Dualismus zwischen den beiden getrennt voneinander sich konstituierenden Betrachtungsebenen der Wert- bzw. Preisrechnung.

¹⁵ Der „Reallohnsatz“ wird in diesen Modellen als „Subsistenz-Warenkorb“ der Lohnarbeiter angesetzt und nicht – wie es der Begriff nahe legen könnte – als inflationsbereinigter Geldlohn.

¹⁶ Alternativ können die simultanen Gleichungssysteme auch über die externe Vorgabe der Profitrate geschlossen werden. Es muss lediglich einer der beiden zentralen Verteilungsparameter (Reallohnsatz oder Profitrate) dem System extern vorgegeben werden.

¹⁷ Sraffa (1976: 57 ff.) demonstriert dieses Verfahren, das er „Reduktion auf datierte Arbeitsmengen“ nennt.

¹⁸ Morishima (1973: 14). Der marxistisch orientierte US-Ökonom Fred Moseley (1999: 2) stellt ebenfalls fest, dass, aus simultanistischer Sicht, „die grundlegend vorgegebenen Größen in Marxens Theorie physische Mengen der technischen Produktionskoeffizienten und die Reallöhne darstellen“ (Übers. HPB).

Bestimmung der Preise, die unabhängig ist von den Werten".¹⁹

Dass die von Napoleoni, Morishima und anderen marxistisch orientierten Ökonomen Marx unterstellte Methode keineswegs so eindeutig „von Marx selbst aufgezeigt“ wurde, hat der New Yorker marxistische Ökonom Andrew Kliman (2007: 19 ff.) sehr detailliert aufgezeigt. Ein weiteres, ideengeschichtlich orientiertes Forschungsgebiet Klimans – das wir ebenfalls nur am Rande streifen können – ist die enge Verbindung der seit Bortkiewicz auf Marx angewandten simultanen Wert-Preis-Rechnung mit der neoklassischen Allgemeinen Gleichgewichtstheorie, wie sie seit ihrer ersten Formulierung durch Léon Walras die herrschende Wirtschaftstheorie dominiert. Methodisch hat sich Bortkiewicz bezeichnenderweise selbst der neoklassischen Schule der Gleichgewichtstheorie nach Léon Walras – „seinem Mentor und Kollegen“²⁰ – zugerechnet:

„Die moderne Theorie der Volkswirtschaft fängt an, sich allmählich von dem successivistischen Vorurteil zu befreien, wobei in dieser Beziehung der mathematischen Schule mit Léon Walras an der Spitze der Hauptverdienst gebührt. Die mathematische, speziell algebraische, Darstellung erscheint eben als der adäquateste Aus-

druck dieses überlegenen, der Eigenart der ökonomischen Zusammenhänge Rechnung tragenden Standpunktes".²¹

Für marxistisch orientierte Autoren wie Morishima, Napoleoni, Friedrun Quaas u.a. stellt diese bei Bortkiewicz hergestellte Synthese von Marx und Walras offensichtlich eine unproblematische Angelegenheit dar. Ganz im Gegensatz dazu bemängelt Andrew Kliman, dass Bortkiewicz „zahlreiche Marxistische (und Sraffianische) Nachfolger“ gefunden hat, die „typischerweise leugnen“, was Bortkiewicz noch wußte: nämlich „dass die Wertkonzeption des ‚Kapital‘ sukzessivistisch oder zeitförmig statt simultan“²² angelegt ist.

§ 4. Das Verdienst von Andrew Kliman und anderen Vertretern der „Temporal Single System Interpretation“²³ des Marxschen „Kapital“ liegt darin, dass sie die Kostpreisfrage und die spezifische Methode ihrer Beantwortung im Rahmen der Bortkiewicz-Sraffa-Tradition neu untersucht und einer kritischen Revision unterzogen haben. Dabei haben die TSSI-Autoren einerseits die simultanistische Methode – also die strikte Identität von Input- und Output-Preisen durch eine simultane Berechnung beider Größen – und andererseits den impliziten Physikalismus – also die konsequente Orientierung an physischen Gebrauchswertstrukturen – zur Debatte gestellt.²⁴ Die Ergebnisse seiner über zwei De-

¹⁹ Der Wirtschafts-Nobelpreisträger Paul A. Samuelson (1974: 293) hat diese dualistische Perspektive in Bezug auf die Wert-Preis-Problematik in einem berühmten Statement noch drastischer formuliert: „Betrachte zwei alternative, widersprüchliche Systeme. Schreibe das eine hin. Zur Transformation nimm einen Radiergummi und radier es aus. Schreibe dann stattdessen das andere hin. Voilà! Damit ist der Transformationsalgorithmus beendet“.

²⁰ Andrew Kliman (2000: 102). Dort wird Bortkiewicz' methodisch enges Verhältnis zu Walras eingehend erörtert wie auch Marxens komplett entgegengesetzte Auffassung der ökonomischen Methode.

²¹ Ladislaus von Bortkiewicz (1976: 104), Hervorh. d.A. Dass Bortkiewicz trotz dieser Adaption der Grundmethodik der Allgemeinen Gleichgewichtslehre einen eigenen, wie man heute sagen würde „neoricardianischen“, Ansatz vertreten hat, steht in keinem Widerspruch zu seiner methodischen Bindung an das Walras'sche Gleichgewichtsprogramm.

²² Andrew Kliman (2000: 102), Übers. HPB.

²³ Im Folgenden auch kurz „TSSI“ genannt.

²⁴ Es stellt ein bemerkenswertes Faktum dar, dass diese methodische Grundsatzentscheidung – welche eine

kaden betriebenen Studien hat Andrew Kliman zusammengefasst in dem Buch „Reclaiming Marx’s Capital“ aus dem Jahr 2007.

Die zentrale Differenz zwischen den TSSI-Autoren und simultanistisch orientierten Ökonomen besteht in der analytischen Behandlung der Kostpreisfrage. Während für die methodologischen Simultanisten der Kostpreis eine Größe ist, welche nicht sukzessivistisch zu denken ist, also als von den *Resultaten* des Produktionsprozesses zu trennende *Voraussetzung*, sondern als zeitlose „Strukturkonstante“, sehen TSSI-Autoren im Kostpreis eine temporal sich konstituierende, invariante Größe, welche mit der zu Beginn des Produktionsprozesses verausgabten Investition in die Produktionsmittel festgesetzt wurde. Entsprechend benutzt Andrew Kliman für den simultanistischen Kostpreis den Begriff „*post-production replacement cost price*“,²⁵ denn dieser richtet sich entsprechend des simultanistischen Paradigmas nach der Notwendigkeit einer zu identischen Input- und Outputpreisen sich vollziehenden Reproduktion des ökonomischen Systems. Ein Produktionsgut wird im Rahmen dieser Methode entsprechend nicht bewertet nach den Reproduktionsbedingungen zum Zeitpunkt t seines Erwerbs – welche prinzipiell differieren können von den Reproduktionsbedingungen zum Zeitpunkt $t+1$ seiner Veräußerung nach geleisteter Zirkulationsbewegung des Kapitals –, sondern nach Maßgabe einer statischen Reproduktion zu identischen Preisbewertungen von Resultat („Output“) und Voraussetzung („Input“). Eine temporal angelegte Dif-

ferenzierung in einen Zeitpunkt t als den Eintritt der Produktionsmittel in den Verwertungsprozess und $t+1$ als Moment der Vergesellschaftung des Endproduktes durch seinen Verkauf erfolgt hier nicht.²⁶

Anders gesagt können Voraussetzungen und Resultate der Produktions-Zirkulations-Bewegung nicht divergieren in den Standardmodellen zur Arbeitswerttheorie, sondern müssen einander quantitativ entsprechen. Ein „faktisch erzielter“ Kostpreis ist deshalb aus simultanistischer Sicht keineswegs der im Modell angesetzte Kostpreis. Als simultanistische Formgröße muss er erst mit den Reproduktionsbedingungen der Outputstruktur vermittelt werden, so dass ex post eine Identität zwischen „tatsächlichen“ Kosten und den für die simultanistische Systemreproduktion notwendigen „Kostengesetzen“ hergestellt wird.²⁷ Wenn gemeinhin in ökonomischen Zusammenhängen die Profitrate eines investierten Kapitals am Verhältnis der gesamten, in Geld gemessenen Kosten zu den realen, monetären Erträgen gemessen wird, entspricht dieses Verfahren keineswegs der durch eine simultanistische Rechnung ermittelten „Profitrate“.

Ganz im Gegensatz zu diesem simultanistischen Kostpreis gehen TSSI-Ökonomen von einem „*pre-production reproduction cost price*“ aus, also den Reproduktionskosten eines Produktionsgutes beim *Eintritt* in den Produk-

ebenso grundsätzliche Adaption der Methodik der neoklassischen Gleichgewichtsanalyse seit Léon Walras bedeutet – innerhalb der marxistischen Forschergemeinde bis in die achtziger Jahre hinein kaum kontrovers diskutiert wurde.

²⁵ S. Kliman (2007: 35).

²⁶ Es sei noch einmal darauf hingewiesen, dass die Momente der Investition in die Produktionsmittel (zum Zeitpunkt t) und der Realisierung des Produktionspreises (zum Zeitpunkt $t+1$) im Rahmen der TSSI als monetäre Operationen gedacht werden. Insofern spielt für die TSSI das Geld und die Wertform eine zentrale Rolle bei der Rekonstruktion des Marxschen Transformationsverfahrens.

²⁷ S. als konkretes Beispiel für diesen Zusammenhang Tabelle 1 auf Seite 9.

tionsprozess. Dieser sukzessivistische Kostpreis steht mit dem Erwerb der Produktionsmittel durch das produzierende Kapital fest und ist invariant als „exogene Größe“ vorgegeben, tritt also als Basisgröße an die Stelle der „physischen Mengendaten“ simultanistischer Modelle.²⁸ Er muss mit dem Preis späterer Produktions-Ergebnisse keineswegs identisch sein, da Veränderungen der Produktionsbedingungen keinen Rückkoppelungseffekt auf unter anderen Bedingungen produzierte Waren haben, sondern nur auf jene unter diesen *neuen* Bedingungen hergestellten Waren. Diese zentrale Differenz zwischen „Simultanisten“ und „Temporalisten“ bezüglich der Kostpreis-Problematik ist keineswegs trivial²⁹ und hat erhebliche Auswirkungen sowohl auf die Bewertung der Konsistenz der Marxschen Wert-Preis-Rechnung als auch in Bezug auf das Marxsche „Gesetz des tendenziellen Falls der Profitrate“.³⁰

§ 5. Wird die von Karl Marx im dritten Band des „Kapital“ angedachte Wert-Preis-Rechnung nicht simultanistisch, sondern kausal-zeitförmig interpretiert – und die Kostpreise entsprechend der von Andrew Kliman vorgeschlagenen „pre-production reproduction costs“ verstanden –, können sämtliche Grundaussagen des „Kapital“ im Kern bestä-

tigt³¹ und der Vorwurf einer logischen Inkonsistenz der Marxschen Theorie zurückgewiesen werden.³²

Zunächst kann eine Wert-Preis-Transformation durchgeführt werden, welche die strikt dualistische Trennung von Wert- und Preisebene überwindet. Der im Rahmen der TSSI entwickelte Wertbegriff steht allerdings in einem anderen wertanalytischen Kontext als der Wertbegriff der Bortkiewicz-Sraffa-Tradition. Aus Sicht der TSSI werden zunächst die Kostpreiswaren resp. Produktionsmittel zu ihren Werten erworben – allerdings „Werten“ in einem nicht-simultanistischen Sinn, was es im Folgenden zu erklären gilt. Die – in der „Kostpreis“-Form enthaltenen – Werte der Produktionsgüter stellen für TSSI-Autoren nämlich keine vor einem Profitratenausgleich angelegte „Werte“ dar, sondern haben bereits einen Profitratenausgleich durchlaufen – sind doch die Produktionsmittel immer bereits Ergebnisse einer *bereits beendeten* Bewegung der Kapitalverwertung mit dem Resultat einer *vergangenen* Durchschnittsprofitrate;³³ denn sobald wir

²⁸ Wie Thomas Kemetmüller (2010: 76) zeigt, „kann das simultane Modell als Spezialfall des zeitlichen aufgefasst werden“.

²⁹ Es wäre insofern wenig hilfreich, die TSSI-Kritik an der (neoricardianischen) Standard-Interpretation der Marxschen Werttheorie abzutun mit dem Hinweis, hier würden einige orthodoxe Marxisten lediglich die Ausgangsbedingungen der Werttheorie verändern mit Blick auf eine Affirmation des Marxschen „Kapital“. Für eine solche Unterstellung ist die Kritik der TSSI viel zu detailliert und methodisch fundiert.

³⁰ Einen guten Überblick über die Kritik der TSSI an den Standardinterpretationen zur Marxschen Werttheorie und deren Versuche einer Gegenkritik bietet Kim (2010).

³¹ Zur Frage der interpretativen Methode bei der logischen Rekonstruktion des Marxschen „Kapital“ äußert sich Andrew Kliman (2007: 55 ff.) sehr ausführlich.

³² Kliman (2004: 23) bietet einen graphischen Überblick über die „Leistungsfähigkeit“ diverser „Kapital“-Interpretationen. Kliman unterscheidet hier zwischen „Simultaneous Dual-System Interpretations“ (SDSI), „Simultaneous Single-System-Interpretations“ (SSSI) und der TSSI. Die einzige Interpretation, welche sämtliche Aussagen der Marxschen Theorie ohne logische Inkonsistenz rekonstruieren kann ist die TSSI, während die SDSI von Marx' Theorie so gut wie nichts übrig lässt.

³³ Diesen Zusammenhang hat Guglielmo Carchedi (1984: 444 ff.) vom Fachbereich Ökonomie der Universität Amsterdam bereits im Jahre 1984 in einer der ersten Publikationen der TSSI im Detail untersucht. Er spricht in seiner Studie von „individuellen Werten“, welche in der Bortkiewicz-Sraffa-Tradition bestimmt werden im Gegensatz zu „gesellschaftlichen Werten“, welche das

uns am Marxschen Modell der Zirkulationsformel des Kapitals orientierten,³⁴ wird die ökonomietheoretische Logik der TSSI unmittelbar einsichtig. Die Produktionsmittel, welche den Kostpreis ausmachen, werden monetär erworben zu Beginn der Kapitalzirkulation, und diese Geldoperation wird wertformtheoretisch verstanden. Die zum Erwerb der Produktionsmittel investierte Geldsumme wird entsprechend als „geldförmiger Ausdruck von Arbeitszeit“ (im Original „monetary expression of labour time“, kurz „MELT“) dargestellt.³⁵ Die „MELT“, so der an der TSSI orientierte Ökonom Alejandro Ramos Martinez, „stellt die quantitative Verbindung zwischen der Wertform (...) und der Werts substanz (...) her“.³⁶ Eine steigende „MELT“ kann so eine inflationäre Tendenz abbilden, eine fallende „MELT“ eine deflationäre Entwicklung.³⁷ Dieses Verfahren der TSSI-Autoren kann sich durchaus auf Marx berufen, der beispielsweise in den „Grundrissen“ schrieb, dass „das Geld die Arbeitszeit als allgemeiner Gegen-

tand oder die Vergegenständlichung der allgemeinen Arbeitszeit ist“³⁸ bzw. Geld „als selbständiger Repräsentant des Werts gesetzt ist“.³⁹ Im „Kapital“ wird Marx sogar noch deutlicher wenn er schreibt, dass „der Preis der Geldname der in der Ware vergegenständlichten Arbeit ist“⁴⁰ bzw. „Geld als Wertmaß notwendige Erscheinungsform des immanenten Wertmaßes der Waren, der Arbeitszeit [ist]“.⁴¹

§ 6. Weshalb die simultanistische Methode mit der Bestimmung des ökonomischen Werts, der Profitrate und der Produktionspreise über die gesellschaftlich notwendige Arbeitszeit grundsätzlich unvereinbar ist, kann relativ einfach aufgezeigt werden. Stellen wir uns, wie Andrew Kliman,⁴² eine stark vereinfachte Modellökonomie vor, in welcher Weizen als einziges Produktionsgut und Lohngut firmiert und mittels der Arbeit der Landarbeiter wiederum Weizen produziert wird. Wie Kliman schreibt, sind die Unterschiede der verwendeten Arbeitzeit unerheblich, denn

„wenn der Wert eines Scheffels Weizen als Saatgut 5 Dollar beträgt, muss der Wert eines Scheffels Weizen als Endprodukt ebenfalls 5 Dollar betragen, ganz egal wie viel oder wenig die Landwirte zu arbeiten haben um es zu produzieren. Sie mögen

sukzessive Element berücksichtigen, dass alle in den Prozess der Kapitalverwertung eintretenden Waren immer das Resultat einer bereits geleisteten gesellschaftlichen Synthese sind.

³⁴ Die allgemeine Zirkulationsformel des Kapitals lautet nach Marx bekanntlich: $G - W (Ak + Pm) \dots P \dots W' - G'$. Ak steht für „Arbeitskraft“, Pm für „Produktionsmittel“ und P für „Produktion“. G ist die Investitionssumme zu Beginn des Produktionsprozesses, mit der Produktionsmittel und Arbeitskraft erworben werden und G' der monetär bewertete Preis für das (Mehrwert bzw. Profit enthaltende) Endprodukt. Die Elemente des konstanten Kapitals werden somit zuerst für Geld erworben, daraufhin mittels des ebenfalls in Geldform erworbenen variablen Kapitals im Wert gesteigert und am Ende der Verwertungsbewegung wird die Ware gegen Geld getauscht und somit vergesellschaftet.

³⁵ Formal gesehen handelt es sich bei der „MELT“ um einen Skalar, durch den der Preisvektor dividiert wird um Geldquanta auf Arbeitsquanta zu reduzieren.

³⁶ Ramos Martinez (2004: 68). Übers. HPB.

³⁷ S. ebd.

³⁸ MEW 42, S. 101.

³⁹ Ebd., S. 162. Für Marx ist „das Quantum Geld, worin ein bestimmtes Quantum Ware umsetzbar, bestimmt durch die in der Ware vergegenständlichte Arbeitszeit. Als Verwirklichung einer bestimmten Arbeitszeit ist die Ware Tauschwert; im Geld ist das Quotum Arbeitszeit, das sie repräsentiert, sowohl gemessen als in seiner allgemeinen, dem Begriff entsprechenden, austauschbaren Form enthalten“ (ebd., S. 100. Hervorh. i. Orig.).

⁴⁰ MEW 23, S. 116.

⁴¹ Ebd., S. 109.

⁴² S. Kliman (2007: 77 ff.).

sich tausend Stunden oder hundert oder nicht eine einzige abplagt haben. Es ist gleichgültig; der Wert einer Weizen-Einheit als Endprodukt kann nicht über den Wert einer Einheit Saatgutweizen steigen oder unter ihn fallen. Deshalb kann der Wert des Weizens sinnvollerweise überhaupt nicht von der zu seiner Produktion notwendigen Arbeitszeit abhängen".⁴³

Die simultanistische Interpretation der Marxschen Werttheorie kennt infolgedessen keinen Wirkungszusammenhang veränderter Arbeitsproduktivität mit dem Preissystem, was der Erfahrung fallender Stückpreise infolge erhöhter Arbeitsproduktivität, die Marx im „Kapital“ durchgängig voraussetzt, diametral widerspricht.⁴⁴ Entsprechend sind Preisbewegungen im Rahmen des simultanistischen Paradigmas nur denkbar als Resultate veränderter physischer Mengenbeziehungen, die hier als „Technologie“ bezeichnet werden. Wenn beispielsweise zehn Scheffel Weizen investiert werden als Saat- und Lohngut (also c und v in Marxscher Diktion) und zwölf Scheffel geerntet werden, lassen sich zwei unterschiedliche Szenarien beschreiben.⁴⁵ Eine simultanistische Sichtweise kann nun davon ausgehen, dass der einheitliche Weizenpreis pro Scheffel 5 Dollar beträgt und somit $10 \text{ Scheffel} \times 5 \text{ Dollar} = 50 \text{ Dollar}$ „Investitionsweizen“ vorliegen, während $12 \text{ Scheffel} \times 5 \text{ Dollar} = 60 \text{ Dollar}$ Endprodukt vorliegen. Die simultanistische, aus dem rein physischen Mengenwachstum sich ergebende Profitrate beträgt somit 20 Prozent, denn die 50-Dollar-Investition der 10 Scheffel ist auf ein 60-Dollar-Ergebnis von 12 Scheffel Wei-

zen gewachsen. Auf der Wertebene sieht die Sache – trotz gleicher physischer Datenlage – dagegen ganz anders aus. Nun kann unterstellt werden, dass ein Produktivitätsfortschritt bzw. Technikwechsel stattgefunden hat, welcher sich in veränderten Endpreisen niederschlägt. Beispielsweise kann der Wert des Weizens von 6 Dollar zu Beginn der Produktion auf 5 Dollar nach Einführung der neuen Technik fallen. Der investierte Weizen hat nun einen Wert von $10 \text{ Scheffel} \times 6 \text{ Dollar} = 60 \text{ Dollar}$ und der Weizen als Produktionsergebnis wird berechnet mit $12 \text{ Scheffel} \times 5 \text{ Dollar} = 60 \text{ Dollar}$. Die Profitrate beträgt nun nicht 20 Prozent, sondern Null, obwohl die physische Menge des Weizens gestiegen ist. Der Rückgang des Weizenwertes von 6 auf 5 Dollar stellt aber das normale Resultat kapitalistischer Konkurrenz dar, innerhalb derer Produktivitätsfortschritte zu sinkenden Preisen führen. Die bereits oben erwähnte unterschiedliche Behandlung der „Kostpreis“-Form führt also, wie bereits unser ganz simpel gehaltenes Beispiel zeigt, zu erheblichen Differenzen in der Profitraten-Entwicklung.

§ 7. Abschließend sei noch auf die sich aus der behandelten Problematik sich ergebende Auswirkung auf das Marxsche Gesetz des tendenziellen Falls der Profitrate eingegangen. Die simultanistische, aus dem physischen Mengensystem abgeleitete Produktionspreistheorie führt logisch zwingend zu einer Umkehrung des Marxschen „Gesetzes“ mit dem Resultat einer steigenden Profitrate.⁴⁶

⁴³ Kliman (2007: 78). Übers. HPB.

⁴⁴ S. Ebd.

⁴⁵ Das hier verwendete Beispiel geht auf Kliman (2007: 79 ff.), zurück.

⁴⁶ Zur konkreten, formalen Herleitung dieses Zusammenhanges s. Cogoy (1982), besonders S. 48. Cogoy (ebd.: 65) geht bemerkenswerterweise davon aus, dass das Okishio-Theorem „dem gesunden Menschenverstand entspricht“, da es zwischen der einzelwirtschaftlichen und der gesamtwirtschaftlichen Rationalität – also einem über eine Erhöhung der

Nehmen wir zur besseren didaktischen Veranschaulichung erneut ein stark vereinfachtes Beispiel als Ausgangspunkt.⁴⁷ Lassen wir nun einen kapitalistischen Landwirt 10 Tonnen Weizen zu Jahresbeginn „investieren“ – diese 10 Tonnen teilen sich auf in Saatgut und „weizenförmigen“ Arbeitslohn –, dann könnte dieser Landwirt am Ende des Weizen-Jahres beispielsweise 11 Tonnen Weizen ernten. Im simultanistischen Modell sind diese 11 Tonnen – der Preis pro Tonne bleibt ja invariant – 10 % mehr wert als die vorherigen 10 Tonnen und die Weizen-Proftrate beträgt 10 %. Wenn wiederum die Arbeitsproduktivität im folgenden Jahr erneut steigt und der Landwirt nun 12 Tonnen erntet, beträgt seine simultanistische Proftrate 20 % und bei analoger Entwicklung im kommenden Jahr (wenn er dann 13 Tonnen erntet) 30 % usw. Das Marxsche „Gesetz“ scheint somit im Verlauf der Produktivitätsentwicklung seine Widerlegung zu finden. Sobald wir nun aber – entgegen der simultanistischen Methode – zulassen, dass die Entwicklung der Arbeitsproduktivität zu fallenden Preisen führt, ergibt sich eine komplett andere Dynamik. Jeder Output (jede Tonne geernteter Weizen) ist nun weniger wert als sein Input (der Saatgut-Weizen). Die *Kosten*struktur der Produzenten kann nun nicht simultan mit der Verbilligung der am Ende des Produktionsergebnisses stehenden Waren fallen, denn *Voraussetzung* und *Resultat* der Kapitalzirkulation fallen nicht zusammen. Im Ergebnis kann somit trotz steigender physischer Erträge die Proftrate fallen,

da unter den Bedingungen kapitalistischer Konkurrenz nun das generelle Preisniveau fällt und damit das Verhältnis von Kosten und Erträgen eine andere Dynamik gewinnt. Die physische Proftrate in Verbindung mit der simultanistischen Methode führt somit zu einer gänzlich anderen Tendenz als die im TSSI ermittelte, auf der Flexibilität des Preissystems infolge technischen Fortschritts aufgebaute Wertproftrate.

Mittels eines weiteren, sehr anschaulichen Beispiels von Andrew Kliman⁴⁸ können wir besonders die Kostpreisproblematik mit Bezug auf simultanistische bzw. temporale Wertanalyse noch etwas besser sichtbar machen.

Stellen wir uns ein ganz einfaches ökonomisches System vor, bei dem Korn mittels Korn und Arbeit produziert wird. Von fixem Kapital und einer Wert-Preis-Transformation wird abstrahiert. Der Lohn beträgt Null (kein variables Kapital), so dass erstens der Kostpreis mit dem konstanten Kapital identisch ist und zweitens der zugesetzte, neugeschöpfte Wert mit dem Profit zusammenfällt. Im ersten Produktionsjahr weichen bei konstanter Technik simultane und temporale Wertrechnung nicht voneinander ab. Im zweiten Produktionsjahr findet nun eine arbeitssparende Innovation (und damit technischer Fortschritt) statt, der jeweils von der simultanen Dual-System-Interpretation (SDSI) bzw. der TSSI interpretiert wird.

Tabellarisch dargestellt ergibt sich folgender Zusammenhang:

Arbeitsproduktivität für den *Einzelkapitalisten* erreichbaren „Extraprofit“ und dem Effekt einer *Verallgemeinerung* dieser Technik auf die Durchschnittsproftrate – keine mögliche „Rationalitätsfalle“ entdeckt. Der „gesunde Menschenverstand“ besteht also für Cogoy in einer naiven Gleichsetzung von mikroökonomischer und makroökonomischer Rationalität.

⁴⁷ Das Beispiel ist Kliman (2002: 3 ff.) entnommen.

⁴⁸ Dieses Beispiel ist entnommen Kliman (2000: 103 f.).

Tabelle 1

Jahr	Input-Wert	Übertragener Wert	Zugesetzter Wert	Gesamtwert	Endprodukt-Wert	Profit-rate
1	2 €/Scheffel	40 € für 20 Scheffel	8 €	48 € für 24 Scheffel	2 €/Scheffel	20 %
2 TSSI	2 €/Scheffel	40 € für 20 Scheffel	5 €	45 € für 24 Scheffel	1,8 €/Scheffel	12,5 %
2 SDSI	1 €/Scheffel	20 € für 20 Scheffel	5 €	25 € für 24 Scheffel	1 €/Scheffel	25 %

Wir sehen, wie SDSI und TSSI im ersten Jahr zu dem gleichen Ergebnis kommen. Im zweiten Jahr findet dann besagte Erhöhung der Arbeitsproduktivität durch einen Technikwechsel statt, wobei die physischen Daten in beiden Systemen auch während der zweiten Produktionsperiode kongruieren, nämlich 20 Scheffel Weizen als „Inputs“ und 24 Scheffel Weizen als „Outputs“. Auch der zugesetzte Wert von 5 € deckt sich in beiden Systemen. Im Rahmen der TSSI ist nun der Endpreis des vorherigen Jahres der invariante Ausgangspreis des zweiten Jahres (als „pre-production reproduction cost price“), nämlich 2 € (pro Scheffel Weizen). Aufgrund der Innovation fällt der Preis des Endproduktes auf 1,8 €, denn mit der erhöhten Arbeitsproduktivität sinkt der in einem Scheffel Weizen „vergegenständlichte“ Arbeitswert. Die SDSI setzt nun identische Input- und Output-Werte voraus und übernimmt somit nicht den relativen Endpreis von Produktionsjahr 1, der 2 € betrug, sondern setzt den Kostpreis (als „post-production replacement cost price“) wie den Endpreis mit 1 € an. In der Modellwelt des SDSI hat sich der Endpreis der ersten Produktionsperiode – den selbstverständlich jeder Produzent, der Weizen aus Periode 1 kauft, zu zahlen hat – „auf wundersame Weise“ in einen entlastenden Kostpreis von 1 € verwandelt, so dass die Profitrate einen ganz anderen Verlauf nimmt als dies die TSSI ansetzt, bei der erstens der Kostpreis des zweiten Jahres mit dem Endpreis des ersten Jahres übereinstimmt und zweitens die Erhöhung der Arbeitsproduktivität eine Reduktion des

Preises für das Produktionsergebnis des zweiten Jahres bewirkt. Das „Gesetz des tendenziellen Falls der Profitrate“ wird im vorliegenden Beispiel im Rahmen äußerst plausibler Modellannahmen von der TSSI bestätigt, während die SDSI bei Geltung des „Okishio-Theorems“ ihm unmittelbar widerspricht. Dass die in unserem Beispiel sichtbar gemachte Problematik sich in komplexeren Zusammenhängen wiederholt ist eines der Spezialgebiete von Andrew Klimans TSSI-Forschung.⁴⁹

Andrew Kliman ist Professor für Wirtschafts-+wissenschaften an der Pace University in New York und Autor und Herausgeber zahlreicher Veröffentlichungen zu Fragen der marxistischen Wirtschaftstheorie. Viel beachtet wurde sein 2007 veröffentlichtes Buch *Reclaiming Marx's "Capital"* („Marxens ‚Kapital‘ zurückgewinnen“), in welchem er die sog. „Temporal Single System Interpretation“ der Marxschen Werttheorie gegen verschiedene Einwände von neoricardianischer und neoklassischer Seite verteidigt. Im Jahr 2011 erschien seine Monographie *The Failure of Capitalist Production. Underlying Causes of the Great Recession*, in welchem er die seit 2008 sich global ausbreitende Wirtschaftskrise theoretisch und empirisch untersucht anhand des Marxschen „Gesetzes des tendenziellen Falls der Profitrate“.

⁴⁹ S. Kliman (2007: 113 ff.).

Das Interview würde über Email-Kontakt geführt.

Das Interview:

Question 1: *Andrew, as a Marxist economist working in the Department of Economics of Pace University in Pleasantville, New York, you must be an "outsider" in the academic sphere of the United States – as are Marxian scholars here in Germany. Could you first of all describe the situation and position of Marxism in the social sciences (and especially economic science) in the U.S. as you look them over? Did the current economic crisis change anything in this field (towards Marx) or do the right-wing interpretations of the economic crisis (as presented by the neo-Austrian school of economics that puts all the blame on the Fed and the abandonment of the gold standard in the early seventies) dominate the economic debate in the U.S.?*

Answer: Yes, I'm an outsider, within the discipline of economics and within "radical economics" and "Marxian economics." I'm engaged in intellectual and political discussion with a fairly large number of people, but mostly people abroad or non-academics. My work is anathema to mainstream "Marxian economists" and Sraffians.

There were never very many radical or Marxian economists in the U.S., and there are far fewer now than in the 1970s. The views and theories of those who remain have also become more conventional. Fields such as political science and sociology have experienced the same trends, although Marxism has always been more respectable in such fields. But I have

little contact with Marxist academics in other disciplines. They're mostly indifferent to Marx's critique of political economy, and academics tend to be very cliquish.

For a couple of decades, Marx was treated with increasing disrespect both in academia and in Left political circles. But once the economic crisis erupted, regular people, and even economists to some degree, became more open to learning what light Marx's ideas could shed on the crisis. People were confused and afraid, which made them much more open-minded.

This was a tremendous opportunity. But the mainstream radical and Marxian economists had exceedingly little to offer in response, because they, too, were confused, and especially because almost all of them in effect accept Thatcher's credo that "there is no alternative" to capitalism. During the Panic of September 2008, they faced a big problem. They didn't approve of a bailout of the big financial institutions—few people did—and they may have wanted to capitalize on populist anti-bank sentiment. But because they have given up on socialism, they had no alternative to propose.

So some of them, like the late historian Howard Zinn and the Leftist economist Dean Baker, argued that there was no serious crisis! More recently, they've been calling for more government spending and higher taxes on rich people in order to keep government debt under control, or state-managed capitalism such as exists in China, or government control and/or ownership of financial institutions.

What they say has almost no influence on debates within the economics discipline or among policymakers. But I wouldn't say that the debate is dominated by Austrian or other right-wing views, either. These views are not marginal, but the crisis triggered a significant turn toward

Keynesianism and activist policies, especially increased regulation.

So I'd say that no consensus yet exists. But I think the objective situation, not policy, is in control here. In the end, policymakers will do whatever they must to try to save capitalism. Thus, in 2008, we saw a tremendous amount of government intervention imposed by a "free-market" Republican administration. Austerity policies are appealing to some, but when the economy is so fragile, they could trigger an even more severe recession. So I don't expect austerity policies from a Republican president, if one takes office in 2012, at least not if s/he has other options.

Question 2: *As far as I can see, Marxian theory – in the non-Sraffian sense! – is the only economic theory that assumes a falling rate of profit in the long run caused by the "normal" development of capitalist accumulation. While for Keynesians the current problem is based on an excess of savings (because of the disproportional increase of higher incomes in relation to the lower ones), for Austrian economists there exists an excess of paper money (because of an "unnatural" interest rate generated by central banking in the absence of a "market-determined" gold standard). Some other economists – based on the theory of Silvio Gesell (1862-1930) – only criticise interest because of the phenomena of compound interest and the growth of unproductive incomes. Their focus lies on the "conflict" between industrial profit and interest, and the solution for them is a system of "negative interest" that increases the costs of "holding liquidity" in order to provide enough "fresh money" for industrial capital.*

For me the central point is that all of these theories, despite their differences, can't even consider that capitalist accumulation – not just an isolated category such as interest – contains an inner contradiction that causes a falling profit rate in the long run. It seems to me that Keynesian theory is fundamentally non-dynamic because it advocates the eternal regulation of capitalist accumulation by means of counter-cyclical deficit spending. For Gesellians the problem would disappear with a negative interest rate (a "money tax"), while for Austrians there exists no problem at all in free markets (except some adjustment problems between equilibrium positions).

Only Marx proved within the analytical tools of his approach that capitalism is faced with a serious, inherent problem based in the centre of value production, and that appearances on the level of prices, incomes, and business cycles have to be understood on the level of the labour theory of value. Do you think it's possible that it's this message of a fundamental inner contradiction of the whole economic system – which implies limits to reformism! – that forces people to ignore Marx's critique of political economy? Is it unthinkable to so many scholars that there is not just a problem of effective demand or the rate of interest but a self-destructive tendency that reminds us that capitalist production can't go on forever and that it's more fragile than the prophets of "the end of history" might think?

Answer: I think you've hit the nail on the head, Peter. Marx's theory of economic crisis is unique in precisely the way you describe, and the law of the tendential fall in the rate of profit is one of the main things in *Capital* that critics allege to be internally inconsistent. Even on the Left,

the political implications of Marx's law are unpopular. For instance, Robin Hahnel, a radical economist, recently wrote:

The idea that capitalism contains *internal contradictions* which act as seeds for its own destruction is simply wrong and needs to be discarded once and for all. ... [T]hanks to work begun by Nobuo Okishio, modern political economists now know better. To make a long story short: labor-saving, capital-using technical change does nothing, in-and-of itself, to depress the rate of profit in capitalism and thereby generate a *crisis of capitalism*.⁵⁰

Hahnel is referring here to Okishio's theorem, which has widely been accepted as a strict mathematical proof that Marx's law is internally inconsistent. But the theorem has been disproved.

There are other things in *Capital*, having to do with its value theory, that have also supposedly been proved internally inconsistent. But these aren't separate issues, in the end, since, as you note, Marx's law and crisis theory are grounded in his value theory.

There's also another reason why the law of the tendential fall in the rate of profit is so unpopular. The law says that the rate of profit tends to fall because productivity *increases*. To many people, such as Robert Brenner, the Marxist historian, it is "intuitively obvious" that this is wrong.⁵¹

50 Hahnel, Robin. 2010. The Economic Crisis and the Left, ZNet, Mar. 16. www.zcommunications.org/the-economic-crisis-and-the-left-by-robin-hahnel. Emphases in original.

51 Brenner, Robert. 2006. The economics of global turbulence: The advanced capitalist

Perhaps this is one reason why the idea that capitalism has a self-destructive tendency is "unthinkable." But the main one, in my opinion, is that economic thinking is mostly, and increasingly, instrumental reason rather than pure theory. If you accept capitalism and play your role within in, the kinds of theories and explanations that are relevant to you are ones that can help you formulate policies to make the system work better. You won't consider others. That doesn't mean that you'll necessarily say that they are false; you might just ignore them and keep them out of the curriculum because they're not "useful."

On the other hand, the current Federal Reserve view is that economic crises are inevitable. Fed Chairman Ben Bernanke recently argued that "We should not imagine, though, that it is possible to prevent all crises," and former Fed Chairman Alan Greenspan has written that "we are dealing with global forces beyond the control of domestic monetary policy makers. ... [t]he growth path of highly competitive markets is cyclical."⁵² They're saying this in response to those who blame the latest crisis on the Fed, and as part of a campaign to give the Fed more

economies from long boom to long downturn, 1945-2005. London: Verso, p. 15, n1.

⁵² Bernanke, Ben S. 2010. Causes of the Recent Financial and Economic Crisis (testimony before the Financial Crisis Inquiry Commission), Sept. 2. Available at federalreserve.gov/newsevents/testimony/bernanke20100902a.htm. Greenspan, Alan. 2009. The Fed Didn't Cause the Housing Bubble, *Wall Street Journal*, March 11, p. A15. Available at <http://online.wsj.com/article/SB123672965066989281.html>.

power to manage crises. And what makes economic crises inevitable in their view is that lending is inherently risky, not that value production is internally contradictory. But the admission that crises are inevitable is still very interesting, and it might have some effect on economic theory.

Question 3: *While we are talking about the economic crisis, you have just finished a book on the same issue. What's the main result of your investigation and how are these studies connected with your – more theoretical – work on the “Temporal Single-System Interpretation” of Marx's value theory?*

Answer: The immediate causes of the financial crisis are now pretty well understood, so I chose to focus instead on the underlying conditions that set the stage for the crisis and recession. I found that the economy never fully recovered from the slump of the mid-1970s. Economic growth slowed down and financial crises became more frequent. Also, in the U.S., employment conditions were weak, growth of pay was sluggish, inequality increased, and public infrastructure deteriorated. The relative stagnation led to large increases in the debt burdens of households and the government, which in turn contributed to the financial crisis. Perhaps more importantly, households' debt problems help explain why the U.S. economy continues to be very sluggish even though the Great Recession “officially” ended in mid-2009.

But what caused the relative stagnation? Using official government data, I found that U.S. corporations' rate of profit fell through the early 1980s. Then, depending upon how one measures “profit,” it either failed to recover or kept falling during the next quarter-century. I also found that the persistent fall in the rate of profit led to a persistent fall in the rate of capital

accumulation. In other words, because relatively little profit was being *generated*, relatively little profit was being *invested* in production. This is crucially important, because the slowdown in investment is what led to sluggish growth of GDP and pay, rising debt burdens, and so on.

I was quite surprised by these findings, because they contradict the conventional Left story about the conditions that set the stage for the crisis and recession. According to that story, the rise of neoliberalism in the 1980s led to a fall in workers' share of income, which in turn caused the rate of profit to rebound significantly. So the slowdown in productive investment was not caused by falling profitability, but by economic changes and neoliberal policies that favored financial investment at the expense of investment in production.

And this is where the temporal single-system interpretation of Marx's value theory comes in. What Marx meant, and what businesses and investors mean, when they refer to the rate of profit is *today's* profit as a percentage of the amount of capital actually invested in the *past*. It's a temporal relation. But when proponents of the conventional Left account tell us that “the rate of profit” rebounded, they're referring to something very different, something that really isn't a rate of profit because it isn't temporal: *today's* profit as a percentage of the amount of money that businesses would need *today* to replace their capital assets.

This atemporal “rate of profit” is the same one that Okishio used when he supposedly disproved Marx's law of the tendential fall in the rate of profit. But once we replace Okishio's rate with the actual, temporal rate of profit, we find that his refutation of Marx fails. So the conventional Left account is wrong in the empirical sphere for the same reason that Marx's critics are wrong in the interpretive sphere.

Question 4: *Estimation of the Marxian profit rate by "extracting" it out of the available data seems to me a difficult operation – but nevertheless of course worth the effort. An interesting issue might be the analysis of the relation between "productive" capital and "financial" capital and the best way of distinguishing between the two categories. Within the Marxian formula of the circuit of capital, interest and financial capital enter the stage at the beginning of the movement (as credit money or borrowing) and at the end (as interest, a component of surplus value). As far as I can see, this implies that financial capital – including financial capital in the form of consumer credit - is able to stimulate productive processes and therefore – in economic reality – that it can't be separated completely from "productive" capital. That's at least what I suppose. So what do you think about the interaction between productive and financial capital and possible effects of this interaction on the profit rate?*

Answer: The U.S. government provides data for "financial" and "nonfinancial" corporations. These data indicate that the rate of profit of financial corporations has almost always been higher than that of the nonfinancials, but that it has also fallen more drastically. And although financial corporations' profits have become an increasingly large share of total corporate profits, they still account for less than 20% of the total.

Because the financials remain relatively small and their rate of profit has declined so sharply, their higher rate of profit hasn't had much effect on the overall rate. Between 1947 and 1985, the overall rate of profit of U.S. corporations, including financials, was 1 percentage point greater than the rate of profit of nonfinancials.

Between 1986 and 1999, the financials' rate of profit was lower than the nonfinancials' rate half of the time, so there was no effect on average. The biggest effect, not surprisingly, occurred during the bubble years preceding the latest crisis: between 2000 and 2007, corporations' overall rate of profit was on average 1.4 percentage points less than the financials' rate. But even 1.4 percentage points is not a big difference in this case. In 2004, for instance, the nonfinancials' rate of profit was 25.3%, and so the financials' higher rate of profit only boosted the overall rate to 26.7%. Financial corporations therefore haven't had a significant effect on the downward trend in the rate of profit over the last 60 years.

There are different ways of measuring the rate of profit, so I should make clear that these rates of profit only count capital employed in the U.S. (by U.S. and foreign-owned corporations) and profit resulting from its employment. But the available data also indicate that U.S. multinationals' rate of profit from overseas operations has fallen even more sharply—at least since 1982, the first year for which data are available—than corporations' "domestic" rate of profit has fallen. Profit on foreign investment has indeed increased markedly, but the volume of investment has increased even more markedly.

I should also note that the U.S. government figures I use—only because they are the only comprehensive figures available—do not count capital gains on financial assets and real estate as profit. Nor do they count capital losses—write-downs of assets' values and moneys set aside to cover losses on loans—as factors that reduce profit. Finally, let me note that my measure of profit is corporations' gross value added (i.e., their contribution to gross domestic product) minus the compensation they paid to employees and the depreciation of their “fixed assets” (equipment, software, and buildings and other structures), valued at historical cost; and my measure of capital, the denominator of the rate of profit, is the historical cost of their stock of fixed assets, excluding all depreciation.

I realize that my computations don't answer the exact question you asked, about how productive capital and financial capital each affect the rate of profit, and how they interact, but I think the above is the best one can do given the data that are available. This might be a serious limitation if I were trying to measure “the Marxian” rate of profit, but I haven't tried to do so, both because of data problems and because there is no single thing that can be called “the” Marxian rate. Marx himself considered various rate of profit, and he analyzed movements in the rate of profit using data that others before him had reported. And they, of course, hadn't tried to compute the Marxian rate of profit. So

one can undertake a Marxian analysis of the rate of profit without computing the Marxian rate.

Thus, what I've tried to do is to start from measures of the rate of profit that capitalists know about and care about, so-called “observed” or “visible” rates of profit. These rates are affected by financial activity and many other things, not only surplus-value from production and productive investment. And then I've tried to use Marx's theories – his value theory and law of the tendential fall in the rate of profit – to analyze movements in the “observed” rates of profit. For instance, I asked, “How much of the fall the (observed) rate of profit between 1947 and 2007 is attributable to the relationship that Marx's law singles out, slow growth of employment in relationship to the rate of accumulation (the share of profit that is invested)?” I found that *almost all* of the fall in the rate of profit is attributable to this.

Question 5: *For me, one of the most interesting and creative answers to the Sraffian critique of Marxian value and price theory was the book The Laws of Chaos by Farjoun and Machover, published in 1983. In 2009 in Germany, the economist Nils Fröhlich published an empirical investigation called “The actuality of the labour theory of value”, using national data from 2000 and 2004. He came to the conclusion that the theoretical framework*

given by Farjoun and Machover is the most successful one in the light of empirical relevance. Did you find any evidence on their probabilistic approach, either empirical or theoretical, during your studies?

Answer: I think *Laws of Chaos* was an important book. It forcefully, and in my view successfully, critiqued the idea that conclusions about real-world capitalism can be deduced from models that assume that all capitalist businesses obtain the same rate of profit. They obviously don't obtain the same rate in reality. Yet the equilibrium-rate-of-profit assumption is a fundamental feature of the Sraffian model, and of similar "corrections" of Marx's value theory that had become popular in the 1970s among leftist critics of Marx and many Marxist economists.

However, Farjoun and Machover did not challenge other equilibrium assumptions that are embedded in these models, such as the assumption that the values and prices of inputs into production and the values and prices of the outputs that emerge from production must be equal. For instance, these models stipulate that the value of a kilogram of coal that is produced at the end of this period must equal the value of a kilogram of coal that entered into production as an input at the start. Because *Laws of Chaos* accepted this interpretation or "correction," it also accepted an important consequence of it: Marx's law of the tendential fall in the rate

of profit is logically invalid, because labor-saving technical change tends to raise, not lower, the rate of profit. This conclusion depends crucially on the assumption that technical progress doesn't tend to cause prices and values of the output produced *today* to fall below the prices and values of the inputs that entered production *yesterday*. That assumption is factually incorrect.

Fröhlich is part of a group of people who have tried to show that "values" and "prices" are closely correlated, i.e., that variations in values are the dominant sources of variations in prices. This line of investigation was begun by Anwar Shaikh and Edward Ochoa, a student of Shaikh's, at the same time that *Laws of Chaos* appeared. Some of the people who conduct these studies are inspired in part by Farjoun and Machover's book, but Shaikh and his students seem not to be, and not all admirers of Farjoun and Machover accept the value-price correlation evidence.

To understand these studies, one needs to understand that they actually *accept* the "corrections" of Marx's value theory. According to these "corrections," Marx was wrong when he claimed that total profit equals total surplus-value. But if total profit and total surplus-value are not equal, Marx's theory that all profit is the result of exploitation falls apart. There's a huge problem here.

The temporal single-system interpretation of Marx's value theory—which emerged at the same time—deals with this problem by arguing that the theory has been misinterpreted. When it's interpreted so that it makes sense, it doesn't need to be "corrected." But since the "corrections" are what causes total profit to deviate from total surplus-value—the two are equal in Marx's *own* theory—the problem disappears.

Shaikh, on the other hand, accepted the "corrections" but tried to demonstrate that the issue is not empirically important, because differences between prices and values in individual industries are small. This is an evasion of the problem. The problem is a theoretical one, not a statistical one. Even if differences between prices and values are modest, the conclusion that total profit differs from total surplus-value implies that value can be created in exchange or destroyed in exchange, that the exploitation of workers isn't the exclusive source of profit, that the rate of profit in the real world can rise under conditions in which Marx's theory says that it must fall, and so on. It's hard to see how much in *Capital* could emerge unscathed.

Another conceptual problem with the value-price correlation studies is that even if their statistical results were valid, these results wouldn't count as evidence in favor

of Marx's theory. Marx never said, and nothing in his theory implies, that differences between values and prices in individual industries are small. The evidence also supposedly shows that industry-level prices do not deviate systematically from industry-level values. This directly contradicts Marx's own theory, which holds that systematic deviations do exist, because of the tendency of rates of profit to equalize, and because of monopoly and rent. For instance, Marx remarks that "Everyone knows that a cotton spinner, who ... employs much constant capital and little variable capital, does not, on account of this, pocket less profit or surplus-value than a baker, who sets in motion relatively much variable capital and little constant capital."⁵³

In any case, their statistical results are not valid, because of what is known as a "spurious correlation" problem. The studies don't show that industries' *per-unit* prices and values (e.g. the price and value per kilogram of coal or per liter of milk) are strongly correlated. They show that the price and the value of industries' *total annual output* are strongly correlated. But this is simply because some industries are large and some are small: the total price and the total value of annual output are both large in large industries and small in small industries. The correlation is what's technically known as "spurious" because there's no real cause-and-effect relationship between values and prices here. The actual cause of difference in prices *and* differences in values is differences in industry size. Once we control for differences in size by measuring prices and values *per dollar of cost*, the correlation disappears.

⁵³ Karl Marx, *Capital*, Vol. 1 (London: Penguin Books), p. 421.

A paper I wrote last year presents an analogous case. Looking at states in the United States, I showed that there is an extremely strong correlation between the number of Christians and total state income. In states with more Christians, total state income is higher, and in states with fewer Christians, total state income is lower. This result seems to be striking confirmation of “the Christianity theory of income.” But there are many Christians and a large total income in some states simply because the population of those states is large, and there are fewer Christians and a smaller total income in other states simply because the population of those states is smaller. Once we control for differences in population, the correlation disappears.

Now, proponents of the value-price correlation evidence have challenged this counter-evidence by arguing that all potential “value bases”—not on labor, but also electricity, oil, iron & steel, etc.—vary according to industry size. So if the value-price correlations were actually caused only by variations in industry size, we should obtain similar results when we look at the correlations between prices and electricity values, prices and oil values, etc. But labor values are more closely correlated with prices than electricity, oil and other “value bases” are.

My paper on the Christianity-income correlation responded to this argument by considering alternative “faith bases.”⁵⁴ Not only the number of Christians in a state, but also the numbers of Jews, Muslims, and Buddhists, vary according to population. But I found that the correlation

between total state income and the number of Christians in a state is much stronger than the correlation between total state income and the numbers of Jews, Muslims, or Buddhists. But what does this prove? Does it prove what it needs to prove—that the Christianity-income correlation is genuine, not a correlation caused by variations in states’ population? Of course it does not, and correlations between prices and “alternative value bases” don’t prove what they need to prove, either.

Question 6: *In fact there exist a lot of attempts in addition to Farjoun and Machover’s to save the basis of Marxian value theory (whatever may be this “basis” is another controversial point); for example, the “New Interpretation” or the “value-form interpretation” (represented in Germany by Michael Heinrich) that denies the need for a value-price transformation at all. All these attempts agree fundamentally with the Sraffian assertion of “internal inconsistency” in the Marxian value-price transformation. The only approach that challenges this view in a radical (that means going to the roots) way is the “Temporal Single-System Approach” presented by Marxian economists like you, Alan Freeman, Nick Potts, and others. Could you explain the core of this interpretation of Marxian value theory in a few words?*

⁵⁴ Andrew Kliman, “Christianity versus Alternative Faith Bases: A Parody.” Unpublished manuscript, Department of Economics, Pace University – Pleasantville, May. Available at akliman@pace.edu/writings.

Answer: I always call it the temporal single-system *interpretation*, or TSSI, because it isn’t a distinct theory or approach to questions of value, price, and profit. It would be wrong to assess it in the

way that one assesses a theory or an approach. Actually, the TSSI is an exegetical interpretation of Marx's own value theory. Its adequacy depends on whether and to what extent it succeeds in making Marx's texts on these issues make sense, as a whole.

By "as a whole," I mean only that a successful exegetical interpretation is one that eliminates the appearance of inconsistency, incoherence, and incongruity—in a passage and between different passages. The TSSI doesn't deal with the whole of Marx's works or even the whole of *Capital*. It deals only with two issues, both of which are very narrow and technical. But both of them also have very important consequences, because it turns out that the question of whether Marx's value theory is internally inconsistent depends on them and them alone.

The first is whether values and prices in Marx's theory are determined temporally or simultaneously. The alleged proofs of inconsistency in the theory all presuppose that values and prices are determined simultaneously, which implies that the price (or value) of a commodity that's produced at the end of some period must equal the price (or value) of the same commodity when it entered production at the start of the period. For instance, if petroleum is used to power the machines that produce more petroleum, the "proofs" assume that the price per barrel of the

petroleum that's produced must always equal the price per barrel of the petroleum that was earlier used as a means of production. The TSSI simply holds that Marx's theory doesn't assume this.

The other issue is whether the values and prices of Marx's theory are determined within one "system" or as two separate "systems." The alleged proofs of inconsistency all presuppose that Marx's theory was a dual-system theory, or that it would have to be a dual-system theory in order to be internally consistent. In the dual-system interpretations or reconstructions, there is a "value system," in which the values of outputs depend on the values of inputs and a separate "price system," in which the prices of outputs depend on the prices of inputs. The TSSI and other single-system interpretations hold that both the values of outputs and the prices of outputs depend in part on the *prices* of inputs.

For instance, assume that a barrel of petroleum is used as an input (means of production), and its price in the market when it enters production is \$100. The TSSI says that, according to Marx's theory, this \$100 isn't only a component of the price of the product that's produced. The amount of value that is transferred to the product, i.e. the petroleum's contribution to the constant-capital component of the product's value when it is produced, is also \$100. (I say "when it

is produced” because its value can change subsequently).

It certainly isn't the case that temporal determination or single-system determination are what *Capital* or Marx's value theory are “really about.” But when it is interpreted as a temporal and single-system theory, all of the alleged inconsistencies in the quantitative dimension of his value theory disappear. In other words, these inconsistencies are created by simultaneous and dual-system interpretation or reconstructions. They aren't present in the original texts.

Question 7: *The basic methodological assumption of the "traditional" Bortkiewicz-Sraffa-Marxism seems to be a "simultaneous dual-system interpretation" (SDSI). I guess that since it is a simultaneous system, it implies a world without "causality," with timeless interdependence of all of its value magnitudes on the one hand and all of its price magnitudes on the other hand. The only connection between the two systems that exists can be constructed through the so-called "invariance postulates" that guarantee that aggregate surplus value equals aggregate profit and aggregate values equal aggregate prices. But there's no other necessary "identity" between the two systems, just this external coincidence. Principally, for the SDSI, "value" and "price" magnitudes are completely different, separated spheres. Is this observation right? Am I right to suppose that these "invariance postulates," and nothing else, are what*

establishes the only possible connection between the two systems?

Answer: Yes, this is completely right. Paul Samuelson, probably the leading economist of his generation, noted and emphasized this point in a famous critique he published in 1971. He said that the “transformation” of values into prices of production was simply a matter of writing down one system of equations, erasing it, and then writing down a completely different set of equations. This made some Marxist economists angry, but it's completely right. Of course, Samuelson presented this critique as a critique of Marx, while it's actually a critique of the SDSI. If Marx's account of the transformation doesn't need to be corrected by separating values and prices of production into two distinct systems, then Samuelson's critique doesn't apply to it.

Another thing that Samuelson's paper emphasized was that the “invariance postulates” don't legitimately establish any relationship between values and prices. As he put it, people “waste much time on the unessential question of what *absolute* level of prices should one introduce into a table whose only importance consists in its well-determined *relative* proportions!”⁵⁵ In

⁵⁵ Paul A. Samuelson, “Understanding the Marxian Notion of Exploitation: A Summary of the So-Called Transformation Problem Between

other words, the only important result of the SDSI “transformation” is that the price of good B is, say, 4 times that of good A while the price of production of good C is 12 times that of A. Anyone can then come along and arbitrarily declare that the prices are 1, 4, and 12, or 2, 8, and 24 or anything else that conforms to these proportions. One person can arbitrarily select prices that make the sum of the prices equal to the sum of the values, another can arbitrarily select prices that make the sum of the profits equal to the sum of the surplus-values, and so forth.

Such procedures prove nothing about the relationship between values and prices of production. One could select, just as easily and just as legitimately, prices that make the sum of the prices equal to the sum of the values *plus* the sum of profits. This would “demonstrate” that profit is a pure markup over and above commodities’ real values, which is a result completely antithetical to Marx’s theory. And as Samuelson emphasized, it makes no difference which absolute prices one selects, just as there was no difference in the price of something that sold for 51.12 euros at the start of 2002 instead of 100 D-marks at the end of 2001. Its price remained unchanged; the only thing that changed were the units in which that price was expressed.

Marxian Values and Competitive Prices,” *Journal of Economic Literature*, Vol. 9, No. 2 (Jun., 1971), pp. 399–431. The quoted passage is on p. 416. Emphases are Samuelson’s.

Question 8: *Paul Samuelson surely was right – within the neoclassical-neoricardian logic of simultaneism – when he came to his famous “rubber statement,” and Ian Steedman’s “Marx after Sraffa”, published 6 years later, breathed exactly the same air. The TSSI must be seen as a direct response to this challenge as it has developed since the early eighties. Now what would you say are your main differences to Sraffa/Samuelson concerning the concepts of “value” and/or “price of production” of the inputs? I guess that these terms must have different meanings within a methodologically different approach.*

Answer: Yes, the TSSI is a direct response to the challenge put forward by Samuelson, Steedman, and the like. Working independently of one another in the late 1970s and the early and mid-1980s, various people in continental Europe, the UK, and the U.S. independently concluded what you conclude—Samuelson was right, but only “within the neoclassical-neoricardian logic of simultaneism.” We all argued that the inconsistencies and errors that Samuelson and the Sraffians attributed to Marx aren’t present in *Capital* itself, but are the result of their misinterpretation.

One thing they misinterpreted was Marx’s concept of “capital value.” They misinterpreted it in the same way that

Bortkiewicz did. What Marx meant by capital value is the sum of value that businesses advance, or invest, as capital to *buy* “inputs” – means of production and workers’ labor-power. However, Samuelson and the Sraffians assumed that when Marx referred to capital value, he meant the amount of labor needed to *reproduce* these inputs, or its equivalent in terms of money. I say they assumed this because they never put forward any argument in support of their interpretation or acknowledged that a different interpretation might be possible.

They probably reasoned as follows: since Marx referred to the *value* of the capital, not the *price* of the capital, he must have meant the monetary expression of the amount of labor needed to reproduce the inputs, not the monetary expression of the amount of labor needed to buy the inputs. But this is incorrect. Imagine that each hour of average labor creates a value of \$100, and that it costs a business \$1000 to buy a computer. The capital value it advances is \$1000, the monetary expression of 10 hours of labor. However, the amount of labor needed to reproduce the computer might be 9 hours or 11 hours – which are equivalent to \$900 or \$1100, not \$1000.

This is the way it works in the real world. It’s also the way it works in *Capital*. The best evidence that this is the way it works in *Capital* is that this interpretation doesn’t,

while the interpretation of Samuelson and the Sraffians does, lead to inconsistencies and errors. I think the direct textual evidence also clearly indicates that the interpretation I’ve sketched out here is consistent with what Marx wrote.

The most likely reason why Samuelson and the Sraffians misinterpreted *Capital* is that they tried to force Marx’s theory into the framework of their physical input-output models. These are models of “The Production of Commodities by Means of Commodities,” which is the title of Sraffa’s famous book. Here, “commodities” means physical things; the models are ones in which physical output are produced by means of the same physical things employed as inputs. This conception isn’t wrong, but it’s one-sided. The capitalist mode of production is one in which physical outputs are produced and value is created, by means of physical things (including labor) and advances of value.

Because of this duality, the value of the *inputs* isn’t the same thing as the value of the *capital* that’s advanced to acquire the inputs, and these two sums of value generally differ. But in the input-output models, they don’t and can’t differ. Input-output theorists can’t deal with the fact that they differ in the real world, except by creating two systems: a value system in which the value of an output depends on the “value of the capital,” and a separate and unrelated price system in which the

price of the output depends on the “price of the capital.”

Question 9: *What are the main objections against the TSSI put forward by the neo-Ricardian economists in response to your challenge? As far as I know there's one objection that seems really interesting and comes from a sympathetic, internal critique, raised by Changkeun Kim, a social scientist who works in the Institute for Social Science, Gyeongsang National University of Southern Korea. Kim, who largely agrees with the TSSI, argues that there is "circular reasoning" within the TSSI determination of the monetary expression of labour time ("MELT") because the MELT logically presupposes the price vector and vice versa.⁵⁶ In other words, the TSSI-MELT is "defined or determined in the transformation procedure" and it therefore can't be brought in to help solve the transformation from values to prices. Do you agree with Kim's view, and if not, how would you respond to his critique?*

Answer: This is really two questions, because Kim is not a Sraffian (a term I use instead of neo-Ricardian, which they take offense at). As you say, his critique is

sympathetic and internal, and, in contrast to what they've written, his paper is a serious contribution that helps advance our understanding of Marx's value theory. Alan Freeman and I have taken his circularity critique very seriously and have recently published a reply that discusses it in detail.⁵⁷ Let me deal with it first; I'll be happy to discuss Sraffians' objections later if you wish.

To understand our response, one needs to begin with the fact that Marx's value theory does not explain how the nominal price of the economy's total output is determined. That's because the nominal price of output is a function not only of the total amount of labour needed to produce the output, but also of what Marx called the “monetary expression of value.” For instance, he wrote that “a change in prices of production is always to be explained *prima facie* by an actual change in commodity values, i.e. by a change in the total sum of labour-time needed to produce the commodities. *We are not referring here, of course, to a mere change in the monetary expression of these values.*”⁵⁸ What Marx's value theory does explain is thus what the

⁵⁶ “The Recent Controversy on Marx's Value Theory”, http://nongae.gsnu.ac.kr/~issmarx/eng/article/18/18_kim.pdf, page 22.

⁵⁷ Alan Freeman and Andrew Kliman, “A Welcome Step in a Useful Direction: A Response to Changkeun Kim,” *Marxism* 21 vol. 8, no. 2, Summer 2011, <http://nongae.gsnu.ac.kr/~issmarx/eng/article/22/Freeman&Kliman22.pdf>.

⁵⁸ Karl Marx, *Capital*, Vol. 3 (London: Penguin Books), p. 266, emphasis added.

price of the economy's total output would be if the monetary expression of value didn't change. (In general, the nominal price of total output will be greater—that is, the monetary expression of value will be greater—because of inflation and rising productivity, but this is compatible with Marx's theory. It doesn't contradict his conclusion that the economy-wide total price of output equals its total value, because this is understood by the theory as merely a nominal deviation of price from value, not a real one.)

So the short version of our response to Kim is this: The TSSI is not guilty of circular reasoning because *it does not even address the issue* with which he is concerned. He suggests that I implicitly argued that the monetary expression of value (or the MELT) determines the nominal price of total output and that the nominal price of total output determines the monetary expression of value. That would certainly be circular reasoning. But the TSSI in fact says nothing at all about which of these things determines the other. The TSSI is an exegetical interpretation of Marx's value theory. Since that theory does not address how the nominal price of output or the monetary expression of value are determined, neither does the TSSI.

Actually, I think that the TSSI's silence on this matter, and not circularity, is the underlying issue that troubled Kim. He wants a theory of how the nominal price of output is determined. So do Freeman and

I, and so did Marx. And Marx put forward at least the rudiments of such a theory. But this is a distinct theory, not part of his *value* theory in the strict sense, and the TSSI is only an interpretation of his value theory in the strict sense. This doesn't mean that Freeman or I remain silent on how the nominal price of output is determined. Our response to Kim discusses what Marx said about this, and it offers some thoughts of our own. But these things are distinct from the TSSI.

There's a much deeper issue here as well. Why did Kim regard the TSSI's silence on this matter as a defect, a *logical* problem? Freeman and I suggest that the answer has to do with the peculiar character of academic economists' models, in which everything is "in equilibrium" and all variables are determined "simultaneously"—that is, in a timeless fashion. These models dominate economists' thinking to such an extent that they conflate the properties of a good theory with the properties of a good model. If a theory doesn't satisfy the requirements that such models need to satisfy, it's considered a defective theory.

We think that Kim inadvertently made this mistake. In such models, every variable must either be "logically prior" and therefore determined outside the model, or determined within the model by the logically prior variables. So if we had such a model, we would have to argue either

that the nominal price of total output is “logically prior” to the MELT and determines it, or vice-versa. If we failed to do so, we’d have a defective model. But Marx’s value theory isn’t an equilibrium model in which everything is determined simultaneously. It’s a non-equilibrium, temporal theory, and temporal theories operate differently. Instead of identifying what’s “logically prior,” they identify what’s a cause and what’s an effect. And instead of determining the magnitudes of their variables, they specify the laws or regularities to which all possible determinations conform.

For instance, Marx’s value theory tells us that the value of total output in terms of labor-time is the cause and the “real” price of total output—the ratio of the nominal price to the MELT—is the effect, and that the “real” price of total output equals its value. That is a meaningful law, even though it doesn’t determine the magnitudes of either the nominal price or the MELT and even though it doesn’t identify either of them as logically prior.

Question 10: *Now after explaining your position on Kim’s “sympathetic critique,” could you please briefly explain the three major objections raised by Sraffian authors and your counter-critique?*

Answer: There have been a lot of objections from Sraffians and physicalist Marxist economists. In order to answer as concisely as possible and isolate just three of them, I’m going to ignore objections that are based on misrepresentations of what we argue and objections based on what we’ve shown to be mathematical errors.

Some objections have been objections to Marx’s value theory when it is interpreted in a way that makes it make sense – that is, as a temporal and single-system theory. There have been two major objections of this kind. One is that Marx’s theory supposedly becomes trivial – it no longer “provid[es] a meaningful set of propositions about what the world is like” – when it is interpreted in a way that makes it make sense.⁵⁹ It is hard to take this objection seriously. The law of the tendential fall in the rate of profit, the conclusions that total price and profit are determined by and equal to total value and surplus-value, and the theory that surplus labor is the exclusive source of profit are meaningful propositions to almost everyone. Indeed, it is largely because of these propositions that Marx’s theory is attacked and suppressed. None of these propositions make sense, they are all logically invalid, when Marx is interpreted

⁵⁹ Mongiovi, Gary. 2002. *Vulgar Economy in Marxian Garb: A critique of temporal single-system Marxism*, *Review of Radical Political Economics* 34:4, p. 413.

as a simultaneist and dual-system theorist, but they all make sense when he is interpreted as a temporalist and single-system theorist. The objection is really an objection to the fact that when Marx's theory makes sense, it is not a set of propositions about the things that Sraffians regard as meaningful – static-equilibrium prices and the static-equilibrium rate of profit.

The other major objection of this kind has been that temporally-determined prices (and values) supposedly involve an "infinite regress." The input prices of one period depend upon the output prices of the previous period, which in turn depend upon the input prices of that period, etc. Ultimately, they depend on what the prices were when the Big Bang occurred, or whatever. Since we don't know anything about the "original" prices, temporalist theory supposedly cannot "really" explain why prices are at certain levels rather than others.

But an analogous "infinite regress" occurs in Sraffian and physicalist-Marxist theories. These theories try to deduce prices and the rate of profit on the basis of physical quantities of inputs and outputs. But the physical inputs of one period depend upon the physical outputs of the previous period, which in turn depend upon the physical inputs of that period, etc. Ultimately, they depend on what the physical inputs were when the Big Bang occurred. Since we don't know anything about the "original" physical inputs, Sraffian and physicalist-Marxist theories cannot "really" explain why physical quantities are at certain levels rather than others, and so they cannot "really" deduce prices and the rate of profit.

This is a ridiculous objection, but it's no more ridiculous than their objection. It's

ridiculous because their theories don't try to deduce prices and the rate of profit "as such"; they try to deduce prices and the rate of profit on the basis of *given* physical quantities now. Their objection is equally ridiculous because Marx's theory doesn't try to explain the prices and values of outputs "as such"; it tries to explain them on the basis of *given* input prices and values now. All temporal theories are like this. For instance, Kepler's laws of planetary motion do not predict the positions of the planets "as such"; they predict the planets' future positions *given* their positions now.

There have also been objections that the TSSI is not an exegetically correct interpretation of Marx's theory. The major objection of this kind concerns the fact that the TSSI implies that what Marx called "prices of production" – the prices that would exist if rates of profit were equal throughout the economy – are not static-equilibrium prices. And this implies that the hypothetical equalized rate of profit is likewise not a static-equilibrium rate. But Sraffians and some others have contended that when Marx discussed prices of production and the hypothetical equalized rate of profit, he was referring to static-equilibrium magnitudes.

Yet they've failed to supply any textual evidence in support of this claim. In the passages they cite, Marx writes that actual market prices in a competitive environment tend to fluctuate around prices of production, and that actual rates of profit tend to fluctuate around the average rate of profit. Thus prices of production are average prices and the general rate of profit is the average rate. But average magnitudes and static-

equilibrium magnitudes are simply two different things. They're different conceptually, and they are frequently different quantitatively as well, often greatly different. For instance, as Alan Freeman has pointed out, "the average behaviour of a surfboard being propelled by a wave is quite different from the behaviour of the same board in a calm sea,"⁶⁰ i.e., what its behavior would have been in a static-equilibrium environment.

There have been other objections of both kinds, but I think that these have been the three major ones—if we use the term "major" to mean most common. I don't think that they, or any of the other objections that have come from Sraffians and physicalist Marxist economists, are intellectually serious ones.

Question 11: *As a proponent and founder of the TSSI, I guess you know the "weaker points" of this approach, or let's say "the research fields of the TSSI that still need more investigation." So if you take a look on the TSSI as a whole: What do you think has to be thought through more; where are the open questions that need to be answered?*

Answer: I actually can't take credit for

being a founder of the TSSI. There were a few other people who discovered it, independently of each other, in the late 1970s and early 1980s. Ted McGlone and I discovered it, independently of the others, in 1986.

I don't think the TSSI in the strict sense—that is, as an exegetical interpretation of Marx's value theory—has weak points, or needs more investigation, at this point. It makes Marx's texts make sense, while the other exegetical interpretations that now exist do not.

That may sound arrogant, but the TSSI is a simple thing. It consists of only two claims: according to Marx's value theory, (1) values and prices are determined temporally, and (2) the magnitudes of constant capital, variable capital, and therefore surplus-value and commodities' values, depend partly on the prices of means of production and labor-power. Also, the TSSI has been around for more than three decades. There used to be passages in Marx's texts that TSSI research hadn't adequately explained, and relevant texts that hadn't been studied. But that's no longer the case.

But I think you're referring to something much broader: economic research, and other social-scientific and philosophical research, that is based on Marx's value theory as understood by the TSSI. In this broader sense, pretty much *everything* is a

⁶⁰ Freeman, Alan. 1984. *The Logic of the Transformation Problem*. In Mandel, Ernest and Alan Freeman (eds.), *Ricardo, Marx and Sraffa: The Langston memorial volume*. London: Verso, p. 232.

weak point, and pretty much *everything* needs more investigation.

The foremost reason why there has been so little progress is that the TSSI has confronted a lot of discrimination and hostility, not only from bourgeois academia, but especially from physicalist-Marxist and Sraffian economists. Students haven't learned about it from their physicalist-Marxist and Sraffian professors, or these professors have told their students that the TSSI is a "fraud" and have actively discouraged them from pursuing TSSI-informed research. Pro-TSSI contributions have been almost entirely kept out of their journals and conferences, and proponents of the TSSI haven't gotten jobs at institutions that have graduate students and significant funding of research, etc. Indeed, few proponents of the TSSI have academic jobs of any kind.

Moreover, physicalist-Marxist and Sraffian economists have misrepresented what we say; they've even lied about what we say. Last year, 15 scholars, not all of whom are proponents of the TSSI, asked the physicalist *Review of Radical Political Economics* to retract a review of *Reclaiming Marx's "Capital"* that it published. The review made false and libelous claims about what I wrote, but the

journal refused to retract it.⁶¹ It's not surprising that such an environment has resulted in very little progress.

Another reason why there's been so little progress is the general disintegration of Marxian economics, and a decline in Marxian scholarship generally, that has been taking place during the last few decades, at least in the English- and French-speaking countries. A third reason is that the number of people who want to, or are in a position to, pursue research informed by the TSSI is much smaller than the number of people who accept that the TSSI is correct. Given the manner in which the TSSI has been "welcomed" in academia, this isn't surprising, either.

Question 12: *As you explained, the roots of the TSSI go back to the late seventies, a time when Marxian economics was completely dominated by Sraffian interpretations of Marx's Capital. The years between the late seventies and now can be called the years of the rise of the project of the TSSI. Looking ahead and thinking about the next decade, what do you think will be the next tasks for Marxian economics? Do you expect some kind*

⁶¹ See "Open Letter to the Editorial Board of the *Review of Radical Political Economics*," <http://www.iwgv.org/rrpe/index.htm>.

of permanent "revival" of Marxian economics, perhaps caused by the ongoing global economic crisis? What's your personal expectation?

Answer: When I wrote *Reclaiming Marx's "Capital"*—it was completed in 2006—I wrote it for the future. By that point, I no longer thought that there was a realistic chance of a revival, any time soon, of intellectual work grounded in Marx's critique of political economy. And I no longer thought that there was a realistic chance that refutation of the myth of inconsistency would do much good right now, by impelling academic Marxian economists to assist, rather than impede, such a revival, or help reverse the ongoing disintegration of "Marxian economics."

Because of the global economic crisis, the future may be a lot closer than I expected. But I'm still not optimistic.

The crisis has certainly called dominant economic theories into question, but almost all adherents of these theories act as if it hasn't. Within the left, including Marxian economics, the crisis is almost always depicted as something that calls into question only the other side, neoliberal policy and free-market economic theory. It's said to be a crisis caused only by deregulation, the rise of "finance," and increasing inequality, but not by low profitability or other underlying problems within capitalist *production*. This

is what's said by the very people who claimed, before the crisis, that neoliberalism was a success in its own terms! There has been a resurgence of "Keynesianism" on the left, but no return to Marx. Academic Marxian economics has moved so far to the right and so far away from Marx that not even the biggest crisis since the Great Depression can change this.

A turn to Marx might still occur, especially if no genuine economic recovery takes place. Young people and regular people may start looking for answers they aren't finding elsewhere. But this is far from assured. One obstacle is that divisions between intellectuals and activists have greatly increased. Another is that so many different perspectives are contending on the internet, in a chaotic way, that it's hard to know what people who are looking for answers will come across.

Another very important obstacle is that there has been very little intellectual work grounded in Marx's critique of political economy for a generation or longer, so young people know almost nothing about it. But that was true in the late 1960s and early 1970s as well, when some revival did occur. It didn't last, but that's partly because of what proved to be a big mistake: reliance on the resources of academia—jobs, students, journals, etc.—in order to revive the Marxian critique of political economy. The young radical

intellectuals thought that they could use academia, but it ended up using them.

That mistake can be avoided, but it won't be easy. What I call "intellectual autonomous zones" need to be created outside of academia, and that will require significant resources. Sustained collaborative research is needed, and this cannot be accomplished by a few individuals doing such work mostly in their spare time. The needed resources will probably have to come from sympathetic political groups and individuals, but they will first have to be persuaded that intellectual autonomous zones are a top priority.

Something like this existed during the Second International, especially in Germany. It was no panacea, of course—the Second International collapsed when World War I broke out. My point is simply that intellectual autonomous zones are a realistic possibility. They aren't the only thing that's needed in order to revive intellectual work grounded in Marx's critique of political economy, but I don't see how there can be a revival without them. Ideas don't have wings; they need people and resources to carry them forward. So I think that the next key task is to help establish intellectual autonomous zones.

Question 13: *My first personal contact with the TSSI came about in the late*

nineties when a friend of mine, a student of economics, told me about the "International Working Group on Value Theory" (IWGVT) and I began to search for further information about it. What I found was the IWGVT homepage that helped to understand your interests and your discussion about different methods for the reconstruction of Marxian value theory, in particular "temporalism" versus "simultaneism." But since 2005 the IWGVT seems dead, because there are no more updates on its homepage. So what happened to the IWGVT, and is there yet another international forum for TSSI conferences that connect people interested in the TSSI?

Answer: The IWGVT website mostly contains papers presented at its 10 annual mini-conferences, which took place from 1994 through 2003. We discontinued the mini-conferences, and that's a main reason why there's been little new content on the site since then. But the IWGVT isn't exactly dead; its main current project is a journal, *Critique of Political Economy*. The first volume will appear online very soon. Among other things, it will carry a dialogue between proponents of the TSSI and Patrick Murray, a proponent of the value-form paradigm. (We invited contributions from other proponents of the value-form paradigm as well, but, in the end, received only his.)

To be blunt, the IWGVT has never been able to do what it set out to do, namely to form a genuine working group of people engaged with one another to work out unresolved questions of value theory. The annual mini-conferences attracted a lot of

people at first, but a large majority of them just wanted platforms to present their own work and an opportunity to network. They didn't want to sit down together and work out unresolved issues in a collaborative way, or even engage with the TSSI and other interpretations or approaches. There certainly was very little interest in trying to get right what Marx's own value theory actually was, in order to then assess how well it holds up. The more we stressed that the purpose of the mini-conferences is engagement, the more they went the other way.

Once they left, the mini-conferences couldn't really continue, because there weren't, and still aren't, a lot of contributions from proponents of the TSSI. Part of the problem, as I mentioned earlier, is that few of us have academic jobs, and those who aren't in academia have little opportunity to do research. But there are also some people who subscribe to the TSSI, and who do research, but who have turned to other issues or who aren't interested in collaborative engagement, and so on. Some TSSI research, and research informed by the TSSI, still goes on, but in the form of papers and books by a few individuals, or, at most, two of us working together.

Alan Freeman and I are still trying to improve this situation. Although *Critique of Political Economy* isn't specifically a TSSI journal or even a Marxist one, several proponents of the TSSI are on the editorial board, and a key mission of the journal is to foster collaboration among us. As we say in the Mission Statement, "We hope that, by working collaboratively on and contributing to the journal, proponents of the TSSI will be able to turn it into an ongoing, self-sustaining, research

program." But because of the problems I mentioned above, it's an uphill battle.

Question 14: *What are your plans for the future? Will you go on elaborating the TSSI in its general form or do you want to begin to apply your theoretical results to some empirical investigations? Do you know of other proponents of the TSSI that pursue interesting projects in bringing the TSSI further along??*

Answer: The interpretive work on the quantitative dimension of Marx's value theory is essentially complete. Last year, Changkeun Kim's paper, which we discussed earlier, raised an important interpretive issue that we hadn't yet dealt with, so I won't say definitively that nothing similar will come along that needs to be addressed. But Marx's physicalist critics haven't put forward any challenge to our interpretation for a decade or more. They continue to dislike what Marx's value theory becomes when it's interpreted in a manner that renders it internally consistent, but that's a different matter. It's not a challenge to the adequacy of the TSSI as an exegetical interpretation.

In light of this, I think there needs to be less stress on "theory" and more stress on fighting suppression and the accuracy of the historical record. Although no one is actively challenging the interpretive adequacy of the TSSI, it remains the case that not a single physicalist critic of Marx has retracted his or her claims that Marx's theory has been proven to be internally inconsistent. They either continue to reassert these claims or they divert from the issue, making it seem as though internal inconsistency—their issue—was never the issue, never their main justification for suppressing Marx's theory and research based on it. As a result, it is still not well known that the "proofs" of inconsistency have themselves been disproved, and the suppression of Marx's theory and research based on the inconsistency allegations continues. So

the crucial TSSI work for today now is the same as it was five years ago, when I concluded *Reclaiming Marx's "Capital"* as follows: "the refutations of the inconsistency allegations give us an excellent opportunity to help turn things around, provided that we shine a bright spotlight upon these refutations and keep it focused upon them, shining brightly, until the myth of inconsistency is eliminated. It is up to the present generation to set the record straight—big time."

Several proponents of the TSSI have done work on a fairly wide variety of empirical and theoretical issues. Some of this work is related in one way or another to the TSSI, although I'd prefer to say that it is rooted in the authors' understanding of Marx's value theory, which includes but isn't limited to the TSSI. I'm thinking especially of work done by Guglielmo Carchedi, Alan Freeman, Paolo Giussani, and Nick Potts. Potts has done some very interesting work that explores how Marx's value theory, as understood by the TSSI, helps to illuminate conflicts between recipients of profit and recipients of interest—productive and financial capitals, if you will. Carchedi has been particularly prolific and his work is wide-ranging, on everything from epistemology to intellectual property to European economic integration. Freeman has begun a comprehensive critique of equilibrium reasoning in economics. From what I've seen thus far, it promises to be the definitive work on this issue. (Not all of these people like to characterize their interpretation of Marx's value theory as temporal and single-system, but it is.)

As for myself, I recently completed a book on the underlying causes of the Great Recession. It will be published next month. There's a close relationship between some of it and Marx's theory as understood by the TSSI. To explain what that relationship is, it's helpful to begin with the conventional wisdom on the left, which says that the Great Recession and its

aftermath are a crisis of neoliberalism, free-market policy, rather than a crisis of capitalism. This claim, which has some obvious but very important political implications, is based on the following argument: U.S. corporations' rate of profit rebounded after the early 1980s, but investment in production (the rate of accumulation) did not respond to the rise in profitability because neoliberal policies encouraged companies to take their profits and buy financial assets like stocks and bonds instead of investing the profits in new productive assets like equipment and factories and office buildings. As a result, economic growth was sluggish and debt problems mounted.

The problem with this argument is that the "rate of profit" that rebounded isn't a rate of profit in any normal sense. The rate of profit—as businesses (and Marx) use the term—is temporal: *today's* profit as a percentage of the money that was actually invested in capital assets *in the past*. But the people who claim that the Great Recession is a crisis of neoliberalism, not a crisis of capitalism, wrongly use the term "rate of profit" to refer to something atemporal: *today's* profit as a percentage of the money that would be needed, *today*, to replace the capital assets. In other words, they value profit and capital simultaneously.

The same substitution is the trick behind the celebrated Okishio theorem, which supposedly proved that Marx's law of the tendential fall in the rate of profit is internally inconsistent. Marx argued that technical progress can cause the actual, *temporal*, rate of profit to fall. Okishio "proved" that he was wrong—by showing that technical progress cannot cause the *atemporal* "rate of profit" to fall!

So TSSI research on the interpretive issues led me to question whether the actual rate of profit rebounded after the early 1980s. I found that it did not. If we use a narrow definition of profit, the rate of

profit failed to recover in a sustained way; and if we use a broad definition of profit, more akin to what Marx meant by “surplus-value,” the rate of profit continued to fall. And the fall in the rate of profit explains why investment in production was sluggish. Since—as I also discovered—neoliberalism actually *did not* cause companies to divert profits from productive investment into financial instruments, the entire fall in the rate of accumulation is attributable to the fall in the rate of profit. And since the fall in the rate of accumulation was a major cause of the slowdown in economic growth and the mounting debt burdens, the fall in the rate of profit was, indirectly, a major cause as well.

By itself, the fall in the rate of profit isn't evidence that Marx's law of the tendential fall in the rate of profit is correct. There are many different reasons why the rate of profit might have fallen. But I also found that Marx's law fits the facts remarkably well. Over the long haul, since 1947, very little of the fall in the rate of profit was caused by wages increasing at the expense of profit or by prices rising more slowly in relationship to labor-time values. But once we eliminate those factors, what's left is that the rate of profit fell because employment grew too slowly in relationship to investment (capital accumulation). This is what Marx's law says, and it's what the facts imply.

Before the latest crisis erupted, I was beginning to work on the issue of alternatives to capitalism, and I've recently returned to it. For me, the key unanswered question is not a question of organizational forms or who is in control. Under capitalism, when all is said and done, it is always the laws of capitalist production, value production, that are actually in

control. After all, the capitalist class didn't decide to have a global financial crisis and Great Recession! So I think the key question is this: What needs to be changed in order to have a free and modern society that doesn't operate according to the laws that govern capitalist value production, and that doesn't slide back into capitalism, or something worse, because it's not economically viable?

It is commonly said that Marx was a critic of capitalism who had almost nothing to say about the new society. But that's not really the case. A great deal of his critique in *Capital* and elsewhere was directed against supposed alternatives to the current society, such as those put forward by Proudhon and in the Gotha Program. He argued again and again that they wouldn't be viable because they only address the symptoms, not the causes—the laws of capitalist value production. They try to make income distribution “fair” or try to impose exchange of products based on the labor actually expended to produce them, but that's not possible as long as value and value production remain. Unfortunately, most of the current “alternatives” to capitalism have the same problem.

So Marx's value theory plays a key role in my thinking about this question. The TSSI plays a role as well, at least in the sense that I wouldn't make an internally inconsistent theory the ground of my investigation into alternatives to capitalism!

Thank you very much, Andrew, for this interview.

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